# Examining the Association Between DIBELS Next ${ }^{\oplus}$ and the SBAC ELA Achievement Standard 

Roland H. Good, III, Ph.D., Dynamic Measurement Group<br>Kelly A. Powell-Smith, Ph.D., Dynamic Measurement Group<br>Mary Abbott, Ph.D., Dynamic Measurement Group<br>Elizabeth N. Dewey, M.A., Dynamic Measurement Group<br>Amy N. Warnock, Dynamic Measurement Group<br>Dave VanLoo, Ph.D., Bend-La Pine School District

## Introduction

This study examined expectations for reading proficiency in the context of Common Core State Standards assessments and how DIBELS Next can inform decisions about student skills relative to these expectations. Specifically, we examined the strength of the association between the DIBELS Next Composite Score and the Smarter Balanced Assessment Consortium (SBAC) English Language Arts (ELA) achievement standard and the SBAC Reading claim.

When establishing a target score on a screening test that will indicate a student is likely to meet expectations on an outcome measure, the achievement standard on the outcome measure plays a critical role. For DIBELS Next, the Group Reading Assessment and Diagnostic Evaluation (GRADE) was used as an outcome measure representative of high-quality, groupadministered, standardized, norm-referenced reading assessments. Performance at or above the 40th percentile was the achievement standard used to represent adequate reading proficiency. We expect the benchmark goals we provide to be broadly relevant to high-quality reading assessments with a similar achievement standard.

In grades $3-5$, the SBAC ELA is reported in 4 levels as summarized in Table 1. Level 1 is described as "has not met the achievement standard," Level 2 as "has nearly met the achievement standard," Level 3 as "has met the achievement standard," and Level 4 as "has exceeded the achievement standard." ${ }^{1}$ States frequently attend closely to the boundary between Level 2 and Level 3. For example, students in third grade who score 2432 or higher on the ELA have met the achievement standard and those who score below that value have not. ${ }^{2}$ An SBAC ELA score of 2432 in third grade is at about the 58th percentile, representing an achievement standard where more than half of students do not meet the standard. ${ }^{3}$

Table 1. SBAC English Language Arts Descriptive Levels with SBAC Achievement Standard (percentile)

| Grade | Level 4 | Level 3 | Level 2 | Level 1 | SBAC Achievement Standard |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | $>2489$ | $2432-2489$ | $2367-2431$ | $<2367$ | $2432(58)$ |
| 4 | $>2532$ | $2473-2532$ | $2416-2472$ | $<2416$ | $2473(57)$ |
| 5 | $>2581$ | $2502-2581$ | $2442-2501$ | $<2442$ | $2502(52)$ |

Note: Linearly interpolated percentiles from http://www.smarterbalanced.org/assessments/development/percentiles/ are provided in parentheses.

## Purpose and Research Questions

The purpose of this poster is to explore the DIBELS Next benchmark goals and cut points for risk with respect to the SBAC ELA achievement standard and to identify scores on DIBELS Next where the student is likely to meet or exceed the SBAC ELA achievement standard. Research questions included: ${ }^{4}$

1. What is the strength of the association between the DIBELS Next Composite Score and the SBAC ELA score?
2. What percent of students meet or exceed the grade-level SBAC ELA achievement standard for each DIBELS Next benchmark status category?
3. What is the estimated probability of meeting or exceeding the grade-level SBAC ELA achievement standard given each DIBELS Next Composite Score?
[^0]
## Method

## Participants

Participants included cohorts of students in grades 3-5 from the Bend-La Pine school district. Bend-La Pine, a small city district, is the 5th largest school district in Oregon and the largest in Central Oregon. ${ }^{5}$ The sample included 2,138 students from 18 elementary schools. The racial and ethnic makeup of the 18 elementary schools in 2015-16 was approximately $83 \%$ white and $12 \%$ Hispanic/ Latino (see Figure 1). ${ }^{6}$ Forty-eight percent were female. ${ }^{7}$ Approximately $47 \%$ of the district's elementary students were economically disadvantaged ${ }^{8} ; 14$ of the district's elementary schools received Title I funding. ${ }^{9}$ Participants' available self-reported demographics were largely consistent with the schools' enrollment demographics.

Figure 1. 2015-2016 Demographics of Participating Schools as Reported by the Oregon Department of Education


Source: http://www.ode.state.or.us/wma/data/schoolanddistrict/students/docs/fallmembershipreport_20152016.xlsx

## Measures

Measures included the DIBELS Next Composite Score (DCS), which includes DORF Words Correct, Accuracy, Retell, and Daze (a maze reading task). Each of these measures has previously established reliability and validity (see Good, Kaminski, Dewey, Wallin, Powell-Smith, \& Latimer, 2013). Measures also included the SBAC English Language Arts (ELA) and Reading claim scores. The SBAC ELA is comprised of computer adaptive (CAT) and performance tasks (PT) and measures four claims: Reading, Writing, Speaking/Listening, and Research. The CAT consists of machine scored and short-text items assessing all four claims. The PT includes two or three research items requiring both short-text responses and a full written response and assesses only the Writing and Research claims. Scores are reported for overall ELA performance as well as for each claim. SBAC scores are divided into 4 achievement levels. Scores in the level 3 and 4 range meet grade-level achievement standards. Scores at level 2 or lower do not meet grade-level achievement standards.

[^1]
## Data Collection

The school district was invited to participate in this study. Signed parental consent was obtained for each student participant. School personnel entered state assessment data for participants into an Excel spreadsheet and uploaded the spreadsheet to a secure upload site. The state assessment data were matched to DIBELS Next data. All data were de-identified prior to analysis.

## Data Analysis

Data analyses included correlations between the assessments, logistic regression analyses predicting meeting or exceeding the SBAC ELA achievement standard based on the DCS, and ROC curve analyses. We evaluated the difference in the probability of earning an SBAC ELA score that meets or exceeds grade-level achievement standards based upon the DCS. The proportion of variance in the outcome (e.g., ELA performance) that was explained by the students' DORF Words Correct score and the DCS was also examined and compared.

## Results

## Descriptive Statistics

Descriptive statistics for the student sample are presented in Table 2. In general, this sample of students was high performing. Grade-level mean SBAC ELA scores fall between the 65th to 75th percentile. The mean end-of-year DCS at each grade is between the 63rd and 70th percentile and in the Above Benchmark range.

Table 2. Descriptive Statistics for SBAC English Language Arts, Reading Claim, and DIBELS Next Composite Score

|  | SBAC |  |  |  | SBAC |  |  | End-of-Year |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ELA Achievement Score |  | Reading Claim Score |  |  | DIBELS Composite Score |  |  |  |  |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |  |
| Grade 3 | 710 | $2,463.39$ | 82.55 | 710 | $2,477.18$ | 108.12 | 726 | 415.94 | 112.15 |  |
| Grade 4 | 635 | $2,501.06$ | 83.01 | 635 | $2,506.68$ | 101.25 | 677 | 459.35 | 105.14 |  |
| Grade 5 | 629 | $2,553.06$ | 82.09 | 629 | $2,555.80$ | 97.05 | 664 | 495.59 | 106.93 |  |

## Relationship of DIBELS Next to SBAC ELA

Results of the correlational analyses are reported in Table 3. In general, DORF Words Correct and SBAC ELA score correlations are moderate-strong, while DCS and SBAC ELA score correlations are strong. Furthermore, the DCS explains an additional 5-7\% of variance in the SBAC ELA score.

Table 3. Correlations between DIBELS Next DORF Words Correct, DCS, and SBAC ELA Score and Additional Variance Explained

| Grade and Time of Year | DORF Words Correct <br> Correlated with <br> SBAC ELA Score | DIBELS Composite Score <br> Correlated with SBAC <br> ELA Score | Additional Variance <br> Explained by DIBELS <br> Next Composite Score |
| :--- | :---: | :---: | :---: |
| Grade 3 Beginning of Year | .670 | .708 | $5 \%$ |
| Grade 3 Middle of Year | .697 | .739 | $6 \%$ |
| Grade 3 End of Year | .700 | .751 | $7 \%$ |
| Grade 4 Beginning of Year | .683 | .721 | $5 \%$ |
| Grade 4 Middle of Year | .681 | .718 | $5 \%$ |
| Grade 4 End of Year | .675 | .726 | $7 \%$ |
| Grade 5 Beginning of Year | .682 | .727 | $6 \%$ |
| Grade 5 Middle of Year | .664 | .717 | $7 \%$ |
| Grade 5 End of Year | .655 | .699 | $6 \%$ |

## Percent of Students Meeting SBAC ELA Grade-Level Standard

Results of examining the percent of students meeting grade-level SBAC ELA achievement standards for each DIBELS Next benchmark status category are displayed in Figure 2 and Table 4. In general, about 80\%-87\% of students in the At or Above Benchmark range earned scores that met or exceeded the SBAC ELA achievement standard, while most (88\%-92\%) students in the Above Benchmark range met or exceeded the SBAC ELA achievement standard. In contrast, very few (about 2-9\%) students in the Well Below Benchmark range met or exceeded the SBAC ELA achievement standard. The greatest differences across grades were in the Below Benchmark status where the percent meeting the SBAC ELA achievement standard ranged from $17 \%$ in third grade to $51 \%$ in fifth grade.

Figure 2. Percent of Students Meeting Grade-Level SBAC ELA Achievement Standard

| End-of-Year <br> DIBELS Composite <br> Score Status | Grade 3 |
| :--- | :--- | :--- | :--- | :--- |$\quad$ Grade 4 $\quad$ Grade 5

Table 4. Percent of Students who Meet/Exceed and Nearly Meet/Do Not Meet Grade-Level SBAC ELA Achievement Standard By Benchmark Status and Time of Year

|  | SBAC ELA Achievement Standard |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Meet/Exceed |  | Nearly Meet/Do Not Meet |  |
|  | Row \% | $N$ | Row \% | $N$ |
| Grade 3 DCS End-of-Year Status |  |  |  |  |
| Above Benchmark | 92.04\% | 370 | 7.96\% | 32 |
| At or Above Benchmark* | 80.95\% | 463 | 19.05\% | 109 |
| Below Benchmark | 17.24\% | 10 | 82.76\% | 48 |
| Well Below Benchmark | 8.96\% | 6 | 91.05\% | 61 |
| Grade 4 DCS End-of-Year Status |  |  |  |  |
| Above Benchmark | 88.04\% | 324 | 11.95\% | 44 |
| At or Above Benchmark* | 79.40\% | 397 | 20.60\% | 103 |
| Below Benchmark | 35.71\% | 30 | 64.28\% | 54 |
| Well Below Benchmark | 1.96\% | 1 | 98.03\% | 50 |
| Grade 5 DCS End-of-Year Status |  |  |  |  |
| Above Benchmark | 90.62\% | 367 | 9.38\% | 38 |
| At or Above Benchmark* | 87.48\% | 440 | 12.53\% | 63 |
| Below Benchmark | 50.63\% | 40 | 49.37\% | 39 |
| Well Below Benchmark | 8.70\% | 4 | 91.31\% | 42 |

*At or Above Benchmark includes students in the Above Benchmark category.

## Odds of Meeting SBAC ELA Grade-Level Achievement Standard

The logistic regression curve for grade 3 (see Figure 3) shows the probability of achieving an SBAC ELA score that meets the grade-level achievement standard given each third-grade end-of-year DCS. The sample size, the amount of variance explained by the full model (i.e., Nagelkerke R $^{2}$ ), and the AUC statistic from the ROC Curve analysis are also reported on Figure 3. Sample sizes, Nagelkerke $R^{2}$, and AUC statistics for all grades and times of year are reported in Table 5. The purple line of the logistic regression represents the line of best fit to the data points. Using the logistic regression model, the predicted odds of meeting or exceeding the SBAC ELA achievement standard are $34 \%$ for a student with a DCS exactly at the benchmark goal at the end of grade 3 . The predicted odds of meeting or exceeding the SBAC ELA achievement standard for a student with a DCS exactly at the cut point for risk are $14 \%$.

The green arrow shows the lowest end-of-year DCS (378) at which the student has at least a $60 \%$ probability of earning an SBAC ELA score that meets the SBAC ELA achievement standard. The orange arrow indicates the lowest end-of-year DCS (342) below which the student has less than a $40 \%$ probability of earning an SBAC ELA score that meets the SBAC ELA achievement standard.

Using similar logistic regression analyses, we identified a DCS for each grade and time of year at or above which a student has a $60 \%$ or greater probability of meeting or exceeding the SBAC ELA achievement standard. Likewise, we identified a DCS at or below which a student has a $40 \%$ or lower probability of meeting or exceeding the SBAC ELA achievement standard. These values are illustrated in Figure 3 with the green and orange arrow and are reported in Table 6 along with the DIBELS Next cut points for risk, benchmark goals, Above Benchmark scores, and percentile ranks for all grades and times of year. At most grades and times of year, the DCS score corresponding to a $60 \%$ probability of meeting or exceeding the SBAC ELA achievement standard exceeds the benchmark goal, but it never exceeds the Above Benchmark score.

Figure 3. Logistic Regression for Grade 3 End of Year


Table 5. DIBELS Next Composite Score and SBAC ELA Logistic Regression and ROC Curve Analyses Sample Sizes, Nagelkerke R², and AUC Results for Each Grade and Time of Year

| Grade and Time of Year | $N$ | Nagelkerke R |  |
| :--- | :---: | :---: | :---: |
| Grade 3 Beginning of Year | 683 | .48 | AUC |
| Grade 3 Middle of Year | 705 | .51 | .87 |
| Grade 3 End of Year | 697 | .55 | .88 |
| Grade 4 Beginning of Year | 631 | .44 | .90 |
| Grade 4 Middle of Year | 631 | .45 | .85 |
| Grade 4 End of Year | 635 | .45 | .85 |
| Grade 5 Beginning of Year | 627 | .47 | .85 |
| Grade 5 Middle of Year | 626 | .44 | .87 |
| Grade 5 End of Year | 628 | .41 | .86 |

Table 6. DIBELS Next Composite Score (percentile rank) for Cut Point for Risk, Benchmark Goal, Above Benchmark, and Corresponding to Estimated Probability of Meeting or Exceeding SBAC ELA Achievement Standard

| Grade and Time of Year | DIBELS Next <br> Composite Score Cut Point for Risk | DIBELS Next <br> Composite Score Benchmark Goal | DIBELS Next <br> Composite Score <br> Above <br> Benchmark | DIBELS Next Composite <br> Score corresponding to .40 or less estimated probability of meeting or exceeding SBAC ELA achievement standard | DIBELS Next Composite Score corresponding to $\mathbf{. 6 0}$ or greater estimated probability of meeting or exceeding SBAC ELA achievement standard |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 3 Beginning of Year | 180 (22) | 220 (33) | 289 (60) | 203 (28) | 248 (43) |
| Grade 3 Middle of Year | 235 (21) | 285 (35) | 349 (60) | 276 (32) | 317 (47) |
| Grade 3 End of Year | 280 (19) | 330 (33) | 405 (60) | 342 (37) | 378 (50) |
| Grade 4 Beginning of Year | 245 (28) | 290 (42) | 341 (60) | 258 (32) | 313 (50) |
| Grade 4 Middle of Year | 290 (26) | 330 (39) | 383 (60) | 313 (33) | 360 (51) |
| Grade 4 End of Year | 330 (18) | 391 (37) | 446 (60) | 382 (34) | 426 (51) |
| Grade 5 Beginning of Year | 258 (19) | 357 (50) | 386 (60) | 292 (28) | 338 (43) |
| Grade 5 Middle of Year | 310 (20) | 372 (43) | 411 (60) | 326 (25) | 368 (42) |
| Grade 5 End of Year | 340 (18) | 415 (40) | 466 (60) | 367 (24) | 416 (41) |

Note: DIBELS Next Composite Score percentile ranks in parentheses obtained from Dewey, E. N., Kaminski, R. A., \& Good, R. H. (2014). DIBELS Next National Norms 2012-2013 (Technical Report No. 17). Eugene, OR: Dynamic Measurement Group. Available: https://dibels.org/papers/DIBELSNextNormsTechReport17.pdf. Derivation of the boxed values is illustrated in Figure 3.

## Discussion

## Conclusion

Results of examining the correlations between the DCS and the SBAC ELA score are consistent with previous research (e.g., Coughlin, Sorrelle, Harms, Russell, Huth, \& LeVesseur, 2015; Good, Powell-Smith, Plahy, \& Hunter, 2013) showing a strong correlation between the DCS and reading outcome measures. All correlations ranged from .70 to .75 across grades 3 through 5 . The correlations between the DORF Words Correct score and the SBAC ELA are also strong, ranging from . 65 to .70. Across all grades and times of year, the DCS explained more variance in SBAC ELA outcomes than the DORF Words Correct score alone, ranging from $5 \%$ to $7 \%$ additional variance explained. These results also are consistent with other studies comparing the percent of variance explained in outcome assessments (e.g., Coughlin et al., 2015; Good et al., 2013) and suggest that the DCS is highly correlated with a broad range of reading outcomes and is the best DIBELS Next indicator of overall reading proficiency. Further, given the wide range of skills assessed on the SBAC ELA, these data support the conclusion that the DCS is an excellent indicator of reading proficiency, including reading for meaning, at an adequate rate, with a high degree of accuracy.

We also evaluated the decision utility of the DIBELS Next benchmark categories with respect to meeting or exceeding the SBAC ELA achievement standard. The strongest conclusions were (1) that students scoring Above Benchmark on DIBELS Next were highly likely to meet or exceed SBAC ELA achievement standards, and (2) that students who scored Well Below Benchmark on the DCS at any time of year had little chance of meeting the SBAC ELA achievement standards. Overall, students who scored in the At or Above Benchmark range on the DCS were likely to meet or exceed the SBAC ELA achievement standard (79\% to 87\%), but, as is clear in the logistic regression analysis, this discussion is more nuanced for students who scored near the benchmark goal. For example, a third-grade student who earns a DCS exactly at the end-of-year benchmark goal has a 34\% estimated probability of meeting or exceeding the SBAC ELA achievement standard (see Figure 3). For the At or Above benchmark category, the overall odds are consistent with DIBELS Next benchmark goals' design specifications. For students who score exactly at the benchmark goal, the probability is less than a desired .60 and as scores increase above the benchmark goal, the likelihood of meeting later reading goals increases (see Appendix 2).

## Limitations

1. The DIBELS Next assessments were administered under uncontrolled conditions. Information on training of assessors and fidelity of assessment is not available. However, these data do represent the way DIBELS Next is used in practice.
2. These data were collected in one school district in a single state, potentially limiting the generalizability of the results.

## Implications for Practice and Future Research

The purpose of DIBELS Next is to inform decisions about which students need instructional support to achieve important future reading outcomes and to monitor progress for students who are provided additional support. The DIBELS Next benchmark goals represent the lowest level of reading skill that puts the odds in a student's favor of reaching subsequent goals. Results of our study indicate that DIBELS Next is a good predictor of SBAC ELA performance. Furthermore, results of this study provide initial guidance regarding the specific DIBELS Next Composite Score that puts the odds in favor of a student meeting or exceeding the SBAC ELA achievement standard.

Future research should replicate these results with a larger sample of students and in other locations. In addition, future research might examine the impact of progress over the course of a year (i.e., Pathways of Progress ${ }^{\text {TM }}$ ). Finally, future research might examine these results for subgroups of students.

## References

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Coughlin, C., Sorrelle, P., Harms, A., Russell, C., Huth, E., LeVesseur, C. (2015). Using Curriculum-Based Measures to Predict Reading Test Scores on the Michigan Educational Assessment Program: Technical Report. Michigan Department of Education, Michigan's Integrated Behavior and Learning Support Initiative.

## Appendix 1

Table 3a. Correlations between DIBELS Next DORF Words Correct, DCS, and SBAC Reading Claim Score and Additional Variance Explained

| Grade and Time of Year | DORF Words Correct <br> Correlated with <br> SBAC Reading Score | DIBELS Composite Score <br> Correlated with SBAC <br> Reading Score | Additional Variance <br> Explained by DIBELS <br> Next Composite Score |
| :--- | :---: | :---: | :---: |
| Grade 3 Beginning of Year | .607 | .633 | $3 \%$ |
| Grade 3 Middle of Year | .628 | .662 | $4 \%$ |
| Grade 3 End of Year | .641 | .675 | $4 \%$ |
| Grade 4 Beginning of Year | .626 | .654 | $4 \%$ |
| Grade 4 Middle of Year | .615 | .645 | $4 \%$ |
| Grade 4 End of Year | .611 | .637 | $3 \%$ |
| Grade 5 Beginning of Year | .598 | .630 | $4 \%$ |
| Grade 5 Middle of Year | .582 | .628 | $6 \%$ |
| Grade 5 End of Year | .565 | .609 | $5 \%$ |

Table 4a. Percent of Students who Meet/Exceed and Nearly Meet/Do Not Meet Grade-Level SBAC Reading Claim By Benchmark Status and Time of Year

|  | SBAC Reading Claim Level |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Meet/Exceed |  | Nearly Meet/Do Not Meet |  |
|  | Row \% | $N$ | Row \% | $N$ |
| Grade 3 DCS End-of-Year Status |  |  |  |  |
| Above Benchmark | 88.56\% | 356 | 11.45\% | 46 |
| At or Above Benchmark* | 79.37\% | 454 | 20.63\% | 118 |
| Below Benchmark | 25.86\% | 15 | 74.14\% | 43 |
| Well Below Benchmark | 11.95\% | 8 | 88.06\% | 59 |
| Grade 4 DCS End-of-Year Status |  |  |  |  |
| Above Benchmark | 85.87\% | 316 | 14.13\% | 52 |
| At or Above Benchmark* | 78.20\% | 391 | 21.80\% | 109 |
| Below Benchmark | 45.24\% | 38 | 54.76\% | 46 |
| Well Below Benchmark | 7.84\% | 4 | 92.15\% | 47 |
| Grade 5 DCS End-of-Year Status |  |  |  |  |
| Above Benchmark | 86.66\% | 351 | 13.34\% | 54 |
| At or Above Benchmark* | 83.90\% | 422 | 16.10\% | 81 |
| Below Benchmark | 50.63\% | 40 | 49.37\% | 39 |
| Well Below Benchmark | 15.22\% | 7 | 84.78\% | 39 |

*At or Above Benchmark includes students in the Above Benchmark category.

Table 5a. DIBELS Next Composite Score and SBAC Reading Claim Logistic Regression and ROC Curve Analyses Sample Sizes, Nagelkerke R², and AUC Results for Each Grade and Time of Year

| Grade and Time of Year | $N$ | Nagelkerke $R^{2}$ | AUC |
| :--- | :---: | :---: | :---: |
| Grade 3 Beginning of Year | 683 | 0.39 | 0.83 |
| Grade 3 Middle of Year | 705 | 0.41 | 0.83 |
| Grade 3 End of Year | $\mathbf{6 9 7}$ | $\mathbf{0 . 4 4}$ | $\mathbf{0 . 8 5}$ |
| Grade 4 Beginning of Year | 631 | 0.37 | 0.82 |
| Grade 4 Middle of Year | 631 | 0.36 | 0.81 |
| Grade 4 End of Year | $\mathbf{6 3 5}$ | $\mathbf{0 . 3 7}$ | $\mathbf{0 . 8 1}$ |
| Grade 5 Beginning of Year | 627 | 0.34 | 0.81 |
| Grade 5 Middle of Year | 626 | 0.36 | 0.82 |
| Grade 5 End of Year | $\mathbf{6 2 8}$ | $\mathbf{0 . 3 4}$ | $\mathbf{0 . 8 1}$ |

Table 6a. DIBELS Next Composite Score (percentile rank) for Cut Point for Risk, Benchmark Goal, Above Benchmark, and Corresponding to Estimated Probability of Meeting or Exceeding SBAC Reading Claim Achievement Standard

| Grade and Time of Year | DIBELS Next <br> Composite Score Cut Point for Risk | DIBELS Next <br> Composite Score Benchmark Goal | DIBELS Next <br> Composite Score <br> Above Benchmark | DIBELS Next Composite <br> Score corresponding to .40 or less estimated probability of meeting or exceeding SBAC <br> Reading Claim achievement standard | DIBELS Next Composite Score corresponding to . 60 or greater estimated probability of meeting or exceeding SBAC Reading Claim adhievement standard |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 3 Beginning of Year | 180 (22) | 220 (33) | 289 (60) | 191 (25) | 246 (42) |
| Grade 3 Middle of Year | 235 (21) | 285 (35) | 349 (60) | 263 (28) | 316 (47) |
| Grade 3 End of Year | 280 (19) | 330 (33) | 405 (60) | 330 (33) | 377 (49) |
| Grade 4 Beginning of Year | 245 (28) | 290 (42) | 341 (60) | 240 (27) | 306 (47) |
| Grade 4 Middle of Year | 290 (26) | 330 (39) | 383 (60) | 294 (27) | 354 (48) |
| Grade 4 End of Year | 330 (18) | 391 (37) | 446 (60) | 367 (28) | 421 (49) |
| Grade 5 Beginning of Year | 258 (19) | 357 (50) | 386 (60) | 277 (24) | 341 (44) |
| Grade 5 Middle of Year | 310 (20) | 372 (43) | 411 (60) | 322 (23) | 375 (45) |
| Grade 5 End of Year | 340 (18) | 415 (40) | 466 (60) | 363 (23) | 422 (43) |

[^2]
## Appendix 2

Likelihood of Meeting Later Reading Goals and DIBELS Next ${ }^{\oplus}$ Benchmark Status

| Likelihood of Meeting Later Reading Goals | Benchmark Status | Benchmark Status Including Above Benchmark | What It Means |
| :---: | :---: | :---: | :---: |
| >99\% | At or Above Benchmark overall likelihood of achieving subsequent early literacy goals: 80\% to $90 \%$ | Above Benchmark <br> overall likelihood of achieving subsequent early literacy goals: $90 \%$ to $99 \%$ | For students with scores in this range, the odds of achieving subsequent early literacy/reading goals are very good. |
| 95\% |  |  | These students likely need effective core instruction to meet subsequent early literacy/reading goals. Some students may benefit from instruction on more advanced skills. |
| 90\% |  | At Benchmark <br> overall likelihood of achieving subsequent early literacy goals: $70 \%$ to $85 \%$ | For students with scores in this range, the odds are in favor of achieving subsequent early literacy/reading goals. The higher above the benchmark goal, the better the odds. |
| 70\% |  |  | These students likely need effective core instruction to meet subsequent early literacy/reading goals. Some students may require monitoring and strategic support on specific component skills as needed. |
| 55\% | Below Benchmark overall likelihood of achieving subsequent early literacy goals: 40\% to $60 \%$ | Below Benchmark overall likelihood of achieving subsequent early literacy goals: $40 \%$ to $60 \%$ | For students with scores in this range, the overall odds of achieving subsequent early literacy/reading goals are approximately even, and hard to predict. Within this range, the closer students' scores are to the benchmark goal, the better the odds; the closer students' scores are to the cut point, the lower the odds. |
| $50 \%$ $45 \%$ |  |  | These students likely need core instruction coupled with strategic support, targeted to their individual needs, to meet subsequent early literacy/reading goals. For some students whose scores are close to the benchmark goal, effective core instruction may be sufficient; students whose scores are close to the cut point may require more intensive support. |
| 40\% | Well Below Benchmark overall likelihood of achieving subsequent early literacy goals: 10\% to $20 \%$ | Well Below Benchmark <br> overall likelihood of achieving subsequent early literacy goals: 10\% to 20\% |  |
| 30\% |  |  | For students with scores in this range, the overall odds of achieving subsequent early literacy/reading goals are low. |
| 20\% |  |  | These students likely need intensive support in addition to effective core instruction. These students may also need support on prerequisite skills (i.e., |
| 10\% |  |  | below grade level) depending upon the grade level and how far below the benchmark their skills are. |
| < $5 \%$ |  |  |  |

The addition of the Above Benchmark status level has not changed the benchmark goals. A benchmark goal is still the point at which the odds are in the student's favor of meeting later reading goals (approximately $60 \%$
likelihood or higher). The higher above the benchmark goal the student scores, the better the odds. For students who are already at benchmark, the Above Benchmark score level also provides a higher goal to aim for.

Instructional decisions should be made based on students' patterns of performance across all measures, in addition to other available information on student skills, such as diagnostic assessment or in-class work.

## Contact information

Roland H. Good, III / rhgood@dibels.org
Kelly A. Powell-Smith / kpowellsmith @ dibels.org
Mary Abbott / mabbot@dibels.org
Amy N. Warnock / awarnock@dibels.org
Dave VanLoo, Ph.D. / dave.vanloo@bend.k12.or.us
General information / info @ dibels.org
Or visit our website at:
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[^0]:    ${ }^{1}$ http://www.smarterbalanced.org/wp-content/uploads/2015/08/Achievement-Level-Descriptors.pdf
    2http://www.smarterbalanced.org/assessments/scores/
    ${ }^{3}$ http://www.smarterbalanced.org/assessments/development/percentiles/
    ${ }^{4}$ The same research questions were addressed for the SBAC Reading claim. Results are in Appendix 1.

[^1]:    ${ }^{5}$ http://nces.ed.gov/ccd/districtsearch/district_detail.asp?Search=1\&InstName=bend\&DistrictType=1\&DistrictType=2\&DistrictType=3\&DistrictType=4\&DistrictTy pe=5\&DistrictType=6\&DistrictType=7\&DistrictType=8\&NumOfStudentsRange=more\&NumOfSchoolsRange=more\&ID2=4101980\&details=
    ${ }^{6}$ http://www.ode.state.or.us/wma/data/schoolanddistrict/students/docs/fallmembershipreport_20152016.xlsx
    ${ }^{7}$ http://www.ode.state.or.us/wma/data/schoolanddistrict/students/docs/fallmembershipreport_20152016.xlsx
    ${ }^{8}$ http://www.ode.state.or.us/data/reportcard/reports.aspx
    ${ }^{9}$ http://www.ode.state.or.us/opportunities/grants/nclb/title_i/a_basicprograms/title-i-schools-2015-16.pdf

[^2]:    Note: DIBELS Next Composite Score percentile ranks in parentheses obtained from Dewey, E. N., Kaminski, R. A., \& Good, R. H. (2014). DIBELS Next National Norms 2012-2013 (Technical Report No. 17). Eugene, OR: Dynamic Measurement Group. Available: https://dibels.org/papers/DIBELSNextNormsTechReport17.pdf. Derivation of the boxed values is illustrated in Figure 3.

